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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/705,730	11/10/2003	Syed Sajid Ahmad	2269-55581 US (99-0253.00)	5033
24247	7590	11/29/2005	EXAMINER	
TRASK BRITT P.O. BOX 2550 SALT LAKE CITY, UT 84110			RAO, G NAGESH	
			ART UNIT	PAPER NUMBER
			1722	

DATE MAILED: 11/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/705,730	AHMAD ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	G. Nagesh Rao	1722	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) 17-22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17:2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                        | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)               | Paper No(s)/Mail Date. ____.  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date ____.  | 6) <input type="checkbox"/> Other: ____.                                    |

*Election/Restrictions*

1) Restriction to one of the following inventions is required under 35 U.S.C.

121:

- I. Claims 1-16, drawn to an apparatus, classified in class 425, subclass 78.
- II. Claims 17-22, drawn to a method, classified in class 264, subclass 497.

Inventions II and I are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus can be used to practice another and materially different process, such as laser cutting shapes from sheets of material.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, recognized divergent subject matter, and because the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

During a telephone conversation with Mr. Power on 5 October 2005 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-16. Affirmation of this election must be made by applicant in replying to this Office action. Claims 17-22 withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
- 2) Claims 1-5, 7-8, and 10-16 rejected under 35 U.S.C. 103(a) as being unpatentable by Grigg (US Patent No. 6,337,122) in view of Tischler (US PG Publication 2003/0114016).

Grigg 122 pertains to an apparatus for three-dimensional fabrication with photo-curable resins indicating its capability of being used in a stereolithographic manner, wherein it is taught a programmed material consolidation system comprised of a plurality of fabricated layers and at least one common component useful with more than one of the plurality of fabricated layers (Col 5 Lines 65-68 and Col 6 Lines 1-10 See Figure 10 Element 14 and Col 7 Lines 20-30)), wherein the material consolidation system comprises a location control element which is capable of being configured to direct consolidating energy to a selected fabrication site ( 96, Col 9 Lines 8-15). Furthermore the location control element is comprised

of a plurality of galvanometers and a mirror (94 Col 9 Lines 8-15), a linear system aiding in the platform that operates as the substrate handling system wherein it is capable of being configured to transport at least one substrate and a cleaning component in the form of a recoater blade (102) which is employed to level the surface and thickness of material deposited onto the substrate or platform (90) (See Abstract, Figure 9 Col 8 Lines 55-68, Col 9 Lines 1-9 and Col 10 Lines 18-32).

However Grigg 122 fails to teach a plurality of fabrication sites within the apparatus to work on multiple substrates.

In a process tool apparatus, Tischler 016 pertains to a carrier tool configured to work on a plurality of fabrication sites (See Fig 3 Element 60), where the susceptor 60 has in its top surface (62) three recesses (66,68, and 70) sized to accommodate a wafer carrier as a site means capable for fabricating three dimensional objects on the site (See Sections 0067-0073).

It would have been obvious at the time of the invention to one with ordinary skill in the art to modify the teachings of Grigg 122 with that of Tischler 016 in order to take advantage of the multiple fabrication sites in order to optimize more work area space for rapid production and prototyping.

3) Claims 6 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Grigg (US Patent No. 6,337,122) in view of Tischler (US PG Publication 2003/0114016) in further view of Yamamoto (US Patent No. 5,151,813).

From the aforementioned the hypothetical device taught by Grigg 122 and Tischler 016 pertains to an apparatus for rapid prototyping of three-dimensional fabrication over a plurality of fabrication sites.

However Grigg 122 lacks the specified teaching of incorporating a plurality of mirrors or a rotary feed system for handling the substrate.

Yamamoto 813 pertains to an apparatus for producing three-dimensional objects, whereby it is taught to use a rotary feed system (14') in conjunction with a plurality of mirrors (16 and 16') in order to allow for a rotational means of the photocurable resin to be exposed to the laser reflected off the plurality of galvano mirrors onto the material enabling a more thorough UV exposure for the photocurable resin (See Col 5 Lines 35-50 and Col 6 Lines 13-41).


It would have been obvious at the time of the invention to one with ordinary skill in the art to modify the teachings of Grigg 122 and Tischler 016 with that of Yamamoto 813 in order to enable more thorough and optimal processing conditions for the photocurable materials.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to G. Nagesh Rao whose telephone number is (571) 272-2946. The examiner can normally be reached on 9AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

GNR



ROBERT DAVIS  
PRIMARY EXAMINER  
GROUP 1300-1702

11/22/05